

**SS2 PHYSICS STUDY GUIDE**

	Topic and content	Reference
Week 1	Work, Energy and Power. -work	New School Physics. M. W. Anyakoha.
	-Energy -Power -Transformation and conservation of energy -World energy resources -Mechanical energy -Conservation of mechanical energy -Machines -Types of machine: Lever, Pulley, Inclined plane, Wedge, Screw Jack, Wheel and axle, Gear wheels, Hydraulic Press. -Friction and efficiency of machine.	Pg. 188 – 200.  Senior secondary physics. P. N. Okeke S. F. Akande Pg. 122 – 129.

1. Define the following terms: (a) Work, (b) Energy, (c) Power.
2. (a) List the forms of energy known to you (b) State the principle of conservation of energy
3. List and define the world energy resources and give one example in each case.
4. (a)
  - (i) What is meant by a machine?
  - (ii) List two examples of a simple machine.
  - (iii) Explain the statement “The velocity ratio of a machine is 5”
- (b)
  - (i) Define the efficiency of a machine.
  - (ii) Explain why a machine can never be 100% efficient.
- (c) A screw jack, 25% efficient and having a screw of pitch 0.4 cm is used to raise a load through a certain height. If in the process the handle turns through a circle of radius 40 cm, calculate the
  - (i) Velocity ratio of the machine.
  - (ii) The Mechanical advantage of the machine.
  - (iii) Effort required to raise a load of 1000N with the machine. (take  $\pi = 3.14$ )